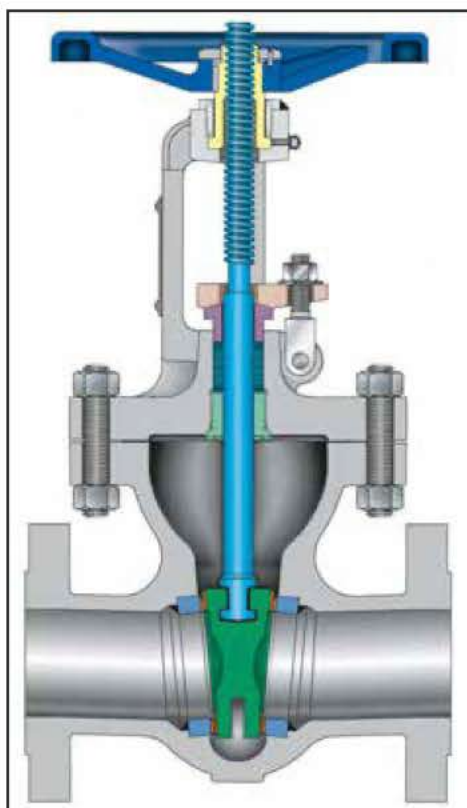


VELAN CAST STEEL API 600 GATE VALVES

BOLTED BONNET CAST CARBON, STAINLESS OR ALLOY STEEL

NPS 2–64 (DN 50–1600), ASME CLASSES: 150– 1500



ASME CLASS	FIGURE NUMBER
150	0064C
300	1064C
600	2064C
900	7064C
1500	3064C

STANDARD MATERIALS

PART	MATERIALS			
Body ⁽¹⁾	WCB	WC6	WC9	CF8M
Bonnet ⁽¹⁾	WCB	WC6	WC9	CF8M
Stem ⁽¹⁾⁽³⁾	SS 410			SS 316
Wedge ⁽¹⁾	CA 15 or 13Cr faced WCB	CA 15 or 13Cr faced WC6	CA 15 or 13Cr faced WC9	CF8M
Seat ⁽¹⁾⁽²⁾	CoCr alloy faced carbon steel	CoCr alloy faced F11	CoCr alloy faced F22	CoCr alloy faced F316
Packing flange	Carbon steel			Stainless steel
Gland bushing	Carbon steel			Stainless steel
Packing ring ⁽¹⁾	Graphite			Graphite
Gland stud	Gr. B or B7(4)			F316, B8M or 630(5)
Gland nut	Gr. 2H			Gr. 8M
Body/bonnet nut	Gr. 2H	Gr. 4		Gr. 8M
Body/bonnet stud	B7		B16	B8M or 630
Back seat ⁽¹⁾⁽³⁾		SS 410		SS 316
Gasket ⁽¹⁾	Class 150: corrugated steel/graphite Class 300–1500: spiral wound stainless steel/graphite			
Key	Carbon steel			
Yoke bushing	Carbon steel			Stainless steel
Bearing	Steel			
Handwheel nut	Malleable iron or steel			
Handwheel ⁽¹⁾	Malleable iron or ductile iron			
Grease fitting	Steel			
Groove pin	Carbon steel			Stainless steel
Bushing	Carbon steel			Stainless steel
Washer	Carbon steel			Stainless steel
Name plate	Stainless steel			
Identification tag	Stainless steel			
Rivet	Stainless steel			
Stem nut	A 439 Austenitic ductile iron Gr. D-2C			

(1) Other materials available. (2) Hardfaced. (3) Hardened.

(4) For eye bolts Gr.B, for studs B7 is used.

(5) For eye bolts F316, for studs B8M or 630 is used.

Design features

- **Universal trim.** 13Cr stem, wedge in CA 15 or 13Cr faced, and CoCr alloy faced seat API Trim 8 suitable for applications up to 850°F (454°C).
- **Seat face** CoCr alloy hardfaced, ground, and lapped to a mirror finish.
- **Flexible wedge** with low center stem-wedge contact, in solid CA15 (13Cr) or hardfaced with 13Cr, SS 316, Monel or CoCr alloy. Wedge is ground and lapped to a mirror finish and tightly guided to prevent dragging and seat damage. A CoCr alloy hardfaced CF8M wedge is also available.
- **Non-rotating stem** with precision ACME threads and burnished finish. Double ACME for faster operation.
- **Body and bonnet joint** accurately machined. Gasket materials on page 4, details on page 9.
- **Body and bonnet** castings are precision machined. One-piece bonnet⁽¹⁾ for better alignment and fewer parts.
- **Gland** has two-piece construction for easy alignment.
- **Flanges:**
ASME Classes 150–300: 1/16" raised face.
ASME Classes 600–1500: 1/4" raised face.
Finish 125–250 AARH for all valves.
- **Rotating stem nut** is Austenitic ductile iron Gr. D-2C renewable in line (as shown). Thrust bearings are supplied as follows:
ASME Classes 150–300:
NPS 10–12 (DN 250–300), 1 bearing (top)
NPS 16 (DN 400) and up, 2 bearings
ASME Classes 600–1500: NPS 6 (DN 150) and up.

(1) One-piece bonnet for Class 150 up to NPS 16 (DN 400) and Class 1500 up to NPS 6 (DN 150) only.

DESIGN SPECIFICATIONS

ITEM	APPLICABLE SPECIFICATION
Wall thickness and general design ≤ NPS 42 in Pressure Class 150 and 300 and ≤ NPS 24 in Pressure Class 600 and greater.	API 600
Wall thickness and general design > NPS 42 in Pressure Class 150 and 300 and > NPS 24 in Pressure Class 600 and greater.	ASME B16.34 plus additional allowance
Pressure-temperature rating	ASME B16.34
Face-to-face dimensions	ASME B16.10 for butt weld and flanged valves
Flange design	ASME B16.5
Butt welding design	ASME B16.25
Materials	ASTM

For information on
**BELLOWS SEAL
VALVES** see
VEL-BS catalog.

GATE VALVE DIMENSIONS

SIZE NPS DN	ASME CLASS 150						ASME CLASS 300						ASME CLASS 600						ASME CLASS 900						ASME CLASS 1500					
	A		B ⁽¹⁾	C ⁽¹⁾	D	E	A	B ⁽¹⁾	C ⁽¹⁾	D	E	A	B ⁽¹⁾	C ⁽¹⁾	D	E	A	B ⁽¹⁾	C ⁽¹⁾	D	E	A	B ⁽¹⁾	C ⁽¹⁾	D	E				
	BW	FLG																									BW	FLG	BW	FLG
2 50	8.50 216	7.00 178	15.63 397	20.38 518	2.00 51	8 203	8.50 216	15.63 397	20.38 518	2.00 51	8 203	11.50 292	15.66 398	20.51 521	2.00 51	8 203	14.50 368	21.25 540	29.00 737	1.88 48	10 254	14.50 368	21.25 540	29.00 737	1.88 48	10 254				
2½ 65	9.50 241	7.50 191	16.88 429	22.14 562	2.50 64	8 203	9.50 241	16.94 430	22.20 564	2.50 64	8 203	13.00 330	18.59 472	24.19 614	2.50 64	10 254	—	—	—	—	—	—	—	—	—	—	—			
3 80	11.13 282	8.00 203	18.56 471	24.26 616	3.00 76	10 254	11.13 283	20.22 514	26.38 670	3.00 76	10 254	14.00 356	21.63 549	27.78 706	3.00 76	10 254	15.00 381	25.75 654	34.50 876	2.88 73	14 356	18.50 470	25.75 654	34.50 876	2.75 70	14 356				
4 100	12.00 305	9.00 229	22.25 565	28.32 719	4.00 102	10 254	12.00 305	23.90 607	30.95 786	4.00 102	10 254	17.00 432	25.75 654	32.76 832	4.00 102	14 356	18.00 457	28.75 730	37.50 953	3.88 99	18 457	21.50 546	28.75 730	37.50 953	3.63 92	18 457				
6 150	15.88 403	10.50 267	31.19 792	38.00 965	6.00 152	14 356	15.87 403	32.31 821	40.38 1026	6.00 152	14 356	22.00 559	36.28 922	44.18 1122	6.00 152	20 508	24.00 610	39.00 991	49.00 1245	5.75 146	20 508	27.75 705	39.00 991	49.00 1245	5.38 137	(2)				
8 200	16.50 419	11.50 292	38.19 970	46.13 1172	8.00 181	18 457	16.50 419	40.94 1040	50.16 1274	8.00 181	18 457	26.00 660	43.72 1110	53.25 1353	7.88 200	24 610	29.00 737	51.75 1315	62.75 1594	7.50 191	(2)	32.75 832	45.25 1149	60.00 1524	7.00 178	(2)				
10 250	18.00 457	13.00 330	47.16 1198	56.28 1430	10.00 254	20 508	18.00 457	49.19 1249	59.87 1521	10.00 254	20 508	31.00 787	49.06 1246	59.87 1521	9.75 248	30 762	33.00 838	57.75 1467	67.25 1708	9.38 238	(2)	39.00 991	57.75 1467	71.00 1803	8.75 222	(2)				
12 300	19.75 502	14.00 356	55.91 1420	66.75 1695	12.00 305	20 508	19.75 502	59.00 1499	70.61 1763	12.00 305	20 508	33.00 838	61.13 1553	72.74 1848	11.75 298	30 762	38.00 965	66.57 1691	83.00 2108	11.13 283	(2)	44.50 1130	73.56 1868	92.00 2337	10.38 264	(2)				
14 350	22.50 572	15.00 381	61.50 1562	75.50 1918	13.25 337	24 610	30.00 762	61.38 1559	77.75 1975	13.25 337	24 610	35.00 889	72.50 1842	83.50 2121	12.88 327	(2)	40.50 1029	73.88 1877	90.00 2286	12.25 311	(2)	—	—	—	—	—				
16 400	24.00 610	16.00 406	68.75 1746	85.00 2159	15.25 387	24 610	33.00 838	68.75 1746	85.50 2172	15.25 387	30 762	39.00 991	82.25 2089	91.00 2311	14.75 375	(2)	44.50 1130	80.44 2043	100.00 2540	14.00 356	(2)	—	—	—	—	—				
18 450	26.00 660	17.00 432	73.25 1861	90.00 2286	17.25 438	24 610	36.00 914	77.88 1978	94.00 2388	17.00 432	(2)	43.00 1092	87.06 2211	116.00 2946	16.50 419	(2)	—	—	—	—	(2)	—	—	—	—	—				
20 500	28.00 711	18.00 457	83.00 2108	100.00 2540	19.25 489	30 762	39.00 991	86.50 2197	100.00 2540	19.00 483	(2)	47.00 1194	103.00 2616	123.00 3124	18.25 464	(2)	—	ASME Classes 900–2500 Forged gate valves also available. See page 22 and 23 for valve weights and Cvs.												
24 600	32.00 813	20.00 508	97.00 2464	115.00 2921	23.25 591	30 762	45.00 1143	101.25 2572	125.00 3175	23.00 584	(2)	55.00 1397	115.00 2921	132.00 3353	22.00 559	(2)	—													
26 650	34.00 864	22.00 559	114.50 2908	125.00 3175	25.00 635	(2)	49.00 1245	114.50 2908	125.00 3175	25.00 635	(2)	57.00 1448	103.86 2638	125.00 3175	21.38 543	(2)	—													
28 700	36.00 914	24.00 610	118.63 3013	130.00 3302	27.00 686	(2)	53.00 1346	118.63 3013	130.00 3302	27.00 686	(2)	61.00 1549	108.25 2750	135.00 3429	23.00 584	(2)	—	ASME Classes 900–2500 Forged gate valves also available. See page 22 and 23 for valve weights and Cvs.												
30 750	36.00 914	24.00 610	124.13 3153	140.00 3556	29.25 743	(2)	55.00 1397	124.13 3153	145.00 3683	29.25 743	(2)	65.00 1651	122.50 3112	150.00 3810	24.75 629	(2)	—													
32 800	38.00 965	26.00 660	129.63 3293	150.00 3810	30.75 781	(2)	60.00 1524	129.63 3293	150.00 3810	30.75 781	(2)	70.00 1778	145.06 3684	170.00 4318	29.25 743	(2)	—													
34 850	40.00 1000	28.00 700	143.00 3632	163.00 4140	32.75 832	(2)	64.00 1626	147.63 3750	168.00 4267	32.75 832	(2)	76.00 1930	138.00 3505	187.00 4750	31.00 787	(2)	—	ASME Classes 900–2500 Forged gate valves also available. See page 22 and 23 for valve weights and Cvs.												
36 900	40.00 1016	28.00 711	146.68 3726	170.00 4318	35.25 895	(2)	68.00 1727	147.81 3754	185.00 4699	35.25 895	(2)	68.00 1727	145.13 3686	170.00 4318	29.00 737	(2)	—													
38 950	41.00 1041	29.00 736	155.91 3960	175.00 4445	36.50 927	(2)	—	—	—	—	—	86.00 2184	121.00 3073	162.00 4115	34.50 876	(2)	—													
40 1000	42.00 1067	30.00 762	158.66 4030	188.00 4775	38.50 978	(2)	76.00 1930	167.00 4242	190.00 4826	38.50 978	(2)	90.00 2286	175.00 4445	198.00 5030	36.38 924	(2)	—	ASME Classes 900–2500 Forged gate valves also available. See page 22 and 23 for valve weights and Cvs.												
42 1050	44.00 1118	31.00 787	166.50 4229	195.00 4953	40.25 1022	(2)	76.00 1930	167.00 4242	190.00 4826	38.50 978	(2)	—	—	—	—	—	—													
44 1100	—	—	—	—	—	—	80.00 2032	186.75 4743	286.00 7264	42.25 1073	(2)	98.00 2490	185.00 4700	211.00 5360	40.50 1028	(2)	—													
46 1150	43.00 1092	34.00 850	186.79 4744	225.00 5715	44.00 1117	(2)	80.00 2032	189.47 4813	193.92 4926	42.25 1073	(2)	—	—	—	—	—	—	ASME Classes 900–2500 Forged gate valves also available. See page 22 and 23 for valve weights and Cvs.												
48 1200	—	36.00 914	189.81 4821	225.00 5715	46.00 1168	(2)	88.00 2235	201.68 5123	330 8342	46.00 1168	(2)	—	—	—	—	—	—													
50 1250	—	38.00 950	204.06 5183	231.00 5867	47.25 1200	(2)	—	—	—	—	—	110.00 2794	214.00 5435	230.00 5842	46.00 1168	(2)	—	ASME Classes 900–2500 Forged gate valves also available. See page 22 and 23 for valve weights and Cvs.												
54 1350	—	40.00 1016	216.56 5501	248.00 6299	51.50 1308	(2)	90.00 2286	232.03 5894	250 6350	51.75 1314	(2)	—	—	—	—	—	—													
56 1400	—	41.00 1041	228.00 5791	258.25 6458	53.69 1364	—	—	—	—	—	—	—	—	—	—	—	—	ASME Classes 900–2500 Forged gate valves also available. See page 22 and 23 for valve weights and Cvs.												
60 1500	—	42.00 1067	238.80 6066	275.00 6985	57.50 1461	(2)	—	—	—	—	—	—	—	—	—	—	—													
64 1600	—	44.00 1118	259.5 6591	300.00 7620	61.25 1556	(2)	—	—	—	—	—	—	—	—	—	—	—													

BW = Butt weld
FL = Flanged
B = Center-to-top, open
C = Dismantling height